



FACTS

about pesticides

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CALCULATIONS

USEFUL FACTS

1 hectare = 10,000 square metres

1 kilogram = 1,000 grams

1 litre = 1,000 millilitres

- How many kilograms of diuron 80% W.P. are needed to supply 10 kg of actual diuron?
80 kg of active diuron are contained in 100 kg of product, therefore,
1 kg of active diuron is contained in $\frac{100}{80}$ kg of product, and 10 kg
of active diuron is contained in $10 \times \frac{100}{80} = 12.5$ kg of diuron 80% W.P.
- How many litres of 500 grams per litre Malathion EC are required to obtain 2 kg of Malathion?
500 grams of Malathion are contained in 1 litre of Malathion EC.
Therefore, 2 kg of Malathion are contained in $\frac{2,000}{500} = 4$ litres
of Malathion EC.
- How many litres of Chlordane 8 EC containing 8 grams per litre are needed to treat 8 hectares of turf when applied at 4 grams per 1,000 square metres.
1 hectare = 10,000 square metres
Therefore, 8 hectares = $8 \times 10,000$ square metres

The number of grams of active ingredient required for this area =

$$8 \times \frac{10,000}{1,000} \times 4 = 320 \text{ g.}$$

1,000

The number of litres of product required = $\frac{320}{8} = 40$ litres

product.

8

4. The property that you have to treat is 60 X 300 metres, but, of this, the house, driveway, and flower beds occupy 6,000 square metres. How many litres will you require for the job? The recommended rate of application is one litre per 1,000 sq. metres.
Total area = 60 X 300 metres = 18,000 square metres.
Area to be treated = 18,000 sq. metres - 6,000 sq. metres = 12,000 sq. metres
Quantity of material required to treat 12,000 sq. metres is
 $\frac{12,000}{1,000} = 12$ litres.
- 1,000
5. If you drive your sprayer at 4 kilometres per hour, how many minutes will it take to drive 1 kilometre?
To drive 4 km requires 60 minutes,
To drive 1 km requires $\frac{60}{4} = 15$ minutes.
- 4
6. You have to spray 33 km of road, each side, 6 metres wide, using 32 grams of acid equivalent per hectare. The formulation contains 20 grams of acid equivalent per litre.
- (a) How many hectares are there to be sprayed?
33 km is equal to 33 X 1,000 = 33,000 metres
Number of hectares to be sprayed = $\frac{33,000 \times 6 \times 2}{10,000} = 39.6$ hectares
- 10,000
- (b) How many litres of product will be required at 32 grams per hectare?
39.6 hectares will require 32 X 39.6 = 1267.2 g acid equivalent.
There are 20 grams of acid equivalent per litre, therefore,
1267.2 g acid equivalent is contained in $\frac{1267.2}{20} = 63.36$ litres of product.
- 20
7. You wish to treat an area of 30 hectares using a tractor drawn boom sprayer which has been calibrated to apply 50 litres of spray per hectare. The spray tank has a 500 litre capacity. The recommended rate of application is 1 litre product per hectare.

- (a) How many litres of product will be required to treat the whole area?
1 litre of product is required to spray 1 hectare.

The number of litres required to spray 30 hectares is $1 \times 30 = 30$ litres

Therefore, 30 litres of product are required to spray 30 hectares.

- (b) How much product must be added to each 500 litre tank load?
1 litre product/hectare must be dispensed in 50 litres of spray per hectare. Therefore, $\frac{500}{50} \times 1 = 10$ litres of product are required

for a 500 litre spray tank.

- (c) How many litres of spray will be required to treat the entire acreage?
There are 30 hectares to be sprayed at 50 litres of spray per hectare.
Therefore, $30 \times 50 = 1,500$ litres of spray are required to spray 30 hectares.

8. A product is recommended for use at the rate of 4 kg active ingredient per hectare. The formulation that you have to purchase is 50% active ingredient. How much product will you require to treat an area 100 metres X 23.5 metres?

Area to be treated in square metres = $100 \times 23.5 = 2,350$ square metres.

Area to be treated in hectares = $\frac{2,350}{10,000} = 0.235$ hectares

10,000

4 kg of active ingredient per hectare = 8 kg of 50% product per hectare.

Therefore, in order to spray 0.235 hectares, $8 \times 0.235 = 1.88$ kg of 50% product is required.



